

AMENDMENT TO THE CLAIMS:

Claims 1 - 22. (Canceled)

23. (Previously amended): A mutant host cell having a metabolic pathway which uses PEP as a precursor or intermediate of metabolism, said host cell characterized by:

- (a) being phenotypically Pts-/glu+ wherein the Pts- phenotype is caused by the deletion or inactivation of all or substantially all of a gene selected from the group consisting of *ptsI*, *ptsH* and *crr*;
- (b) requiring galactose permease activity to transport glucose; and
- (c) having a specific growth rate on glucose as a sole carbon source of at least 0.4h^{-1} .

24. (Original): A mutant host cell of Claim 23 comprising recombinant DNA coding for one or more of the enzymes selected from the group consisting of transketolase, transaldolase and phosphoenolpyruvate synthase such that the mutant host cell expresses transketolase, transaldolase or phosphoenolpyruvate synthase at enhanced levels relative to wild-type host cells.

25. (Original): A mutant host cell of Claim 23 further comprising mutations in the *pykA* and/or *pykF* genes in said host cell.

26. (Original): A mutant host cell of Claim 24 further comprising mutations in the *pykA* and/or *pykF* genes in said host cell.

27. (Previously amended): A method for increasing PEP availability to a biosynthetic or metabolic pathway of a host cell, the method comprising,

- a) obtaining a host cell mutant characterized by having a Pts-/glu+ phenotype requiring galactose permease activity to transport glucose; and having a specific growth rate on glucose as a sole carbon source of at least 0.4h^{-1} wherein the Pts- phenotype is caused by the deletion or inactivation of all or

substantially all of one of the genes

- b) selected from the group consisting of *ptsI*, *ptsH* and *crr*, and
- b) culturing the host cell mutant in the presence of an appropriate carbon source, wherein said host cell mutant utilizes PEP as a precursor or intermediate of metabolism.

28. (Canceled)

29. (Previously amended): A method of Claim 27 further comprising modifying the host cell mutant to introduce therein recombinant DNA coding one or more of the enzymes selected from the group consisting of transketolase, transaldolase and phosphoenolpyruvate synthase such that the mutant host cell expresses transketolase, transaldolase or phosphoenolpyruvate synthase at enhanced levels relative to wild-type host cells.

30. (Previously amended): The method of Claim 27 further comprising modifying the host cell mutant to reduce or eliminate pyruvate kinase activity in said host cell.

31. (Original): A method of Claim 30 wherein pyruvate kinase activity is reduced or eliminated in the host cell by introducing a mutation in DNA encoding one or more of the sequences coding for pyruvate kinase, pyruvate kinase promoter region and other regulatory sequences controlling expression of pyruvate kinase.

32. (Canceled)

33. (Previously amended): A method of Claim 42 wherein the DNA used to transform the host cell encodes one or more enzyme(s) selected from the group consisting of DAHP synthase, DHQ synthase, DHQ dehydratase, shikimate dehydrogenase, shikimate kinase, EPSP synthase and chorismate synthase.

34. (Previously amended): A method of Claim 42 further comprising transforming the host cell with recombinant DNA coding one or more enzyme(s) selected from the group consisting of transketolase, transaldolase and phosphoenolpyruvate synthase so that

said enzyme is expressed at enhanced levels relative to wild-type host cells.

35. (Original): A method of Claim 33 further comprising transforming the host cell with recombinant DNA coding one or more enzyme(s) selected from the group consisting of transketolase, transaldolase and phosphoenolpyruvate synthase so that said enzyme is expressed at enhanced levels relative to wild-type host cells.

36. (Previously amended): A method of Claim 42 wherein the desired compound is selected from the group consisting of tryptophan, tyrosine and phenylalanine.

37. (Original): A method of Claim 36 wherein the desired compound is tryptophan and the host cell is transformed with DNA coding one or more gene(s) selected from the group consisting of *aroG*, *aroA*, *aroC*, *aroB*, *aroL*, *aroE*, *trpE*, *trpD*, *trpC*, *trpB*, *trpA* and *tktA* or *tktB*.

38. (Previously amended): A method for obtaining a Pts- /Glucose⁺, galactose permease requiring-mutant cell, the method comprising:

- (a) selecting a host cell which utilizes a phosphotransferase transport system;
- (b) mutating the host cell whereby the phosphotransferase transport system is inactivated;
- (c) culturing the mutant host cell under continuous culture conditions using glucose as a carbon source; and
- (d) selecting mutant host cells which grow on glucose at a specific growth rate of at least 0.4h⁻¹.

39. (Previously amended): A method for obtaining a Pts- /Glucose⁺, galactose permease requiring-mutant cell, the method comprising:

- (a) selecting a host cell which utilizes a phosphotransferase transport system;
- (b) mutating the host cell whereby the phosphotransferase transport system is inactivated;
- (c) culturing the mutant host cell using glucose as a carbon source; and

(d) selecting mutant host cells having a specific growth rate on glucose of about 0.8h^{-1} .

40. (Previously amended): A mutant host cell having a metabolic pathway which uses PEP as a precursor or intermediate of metabolism, said host cell characterized by:

- (a) being phenotypically Pts- /Glu⁺;
- (b) requiring galactose permease activity to transport glucose; and
- (c) having a specific growth rate on glucose as a sole carbon source of about 0.8h^{-1} .

41. (Previously canceled)

42. (Previously amended): A method for enhancing production of a desired compound in a modified host cell, said host cell in its unmodified form being capable of utilizing a phosphotransferase transport system for carbohydrate transport, the method comprising,

- (a) obtaining a modified host cell, wherein said modified host cell is characterized by having
 - (i) a Pts-/glu⁺ phenotype;
 - (ii) requiring galactose permease activity to transport glucose;
 - (iii) having a specific growth rate on glucose as a sole carbon source of at least about 0.4h^{-1} ; and
 - (iv) utilizing PEP as a precursor or intermediate of metabolism, said modified host cell further comprising recombinant DNA encoding one or more enzyme(s) catalyzing reactions in the pathway of biosynthetic production of said desired compound in said modified host cell; and
- (b) culturing the modified host cell with an appropriate carbon source whereby the production of a desired compound in the modified host cell is enhanced compared to the production of said desired compound in the unmodified host cell.

43. (Previously amended): A method for enhancing production of a desired compound in a modified host cell, said host cell in its unmodified form being capable of utilizing a phosphotransferase transport system for carbohydrate transport, the method comprising,

- (a) obtaining a modified host cell, said modified host cell characterized by having
 - (i) a Pts-/glu+ phenotype;
 - (ii) requiring galactose permease activity to transport glucose;
 - (iii) a specific growth rate on glucose as a sole carbon source of about 0.8h^{-1} and
 - (iv) utilizing PEP as a precursor or intermediate of metabolism, said modified host cell further comprising recombinant DNA encoding one or more enzymes catalyzing reactions in the pathway of biosynthetic production of said desired compound in said modified host cell and
- (b) culturing the modified host cell with an appropriate carbon source whereby the production of a desired compound in the modified host cell is enhanced compared to the production of said desired compound in the unmodified host cell.

44. (Previously added): The method of Claim 42 wherein the Pts- phenotype is caused by the deletion or inactivation of all or substantially all of one or more gene(s) selected from the group consisting of ptsI, ptsH and crr.

45. (Canceled): ~~The method of Claim 38 wherein mutating the host cell is by inactivating the phosphotransferase transport system.~~

46. (Currently amended): The method of ~~Claim 45~~ claim 38 wherein said inactivating is by deleting part or all of gene(s) selected from the group consisting of ptsI, ptsH and crr.

47. (Previously added): The mutant host cell of claim 40 further comprising mutations in a gene selected from the group *pykA* and *pykF*.

48. (Previously added): The mutant host cell of claim 40 further comprising recombinant DNA coding for one or more of the enzymes selected from the group consisting of transketolase, transaldolase, and phosphoenolpyruvate synthase wherein the mutant host cell expresses transketolase, transaldolase or phosphoenolpyruvate synthase at enhanced levels relative to wild-type host cells.

49. (Previously added): The method of Claim 38, wherein the selected mutant host cell has a specific growth rate of at least 50% of the host cell of step a).

50. (Previously added): The method of Claim 42 further comprising recovering said desired compound.

51. (Previously added): The method of Claim 43 further comprising recovering said desired compound.